

Setting up

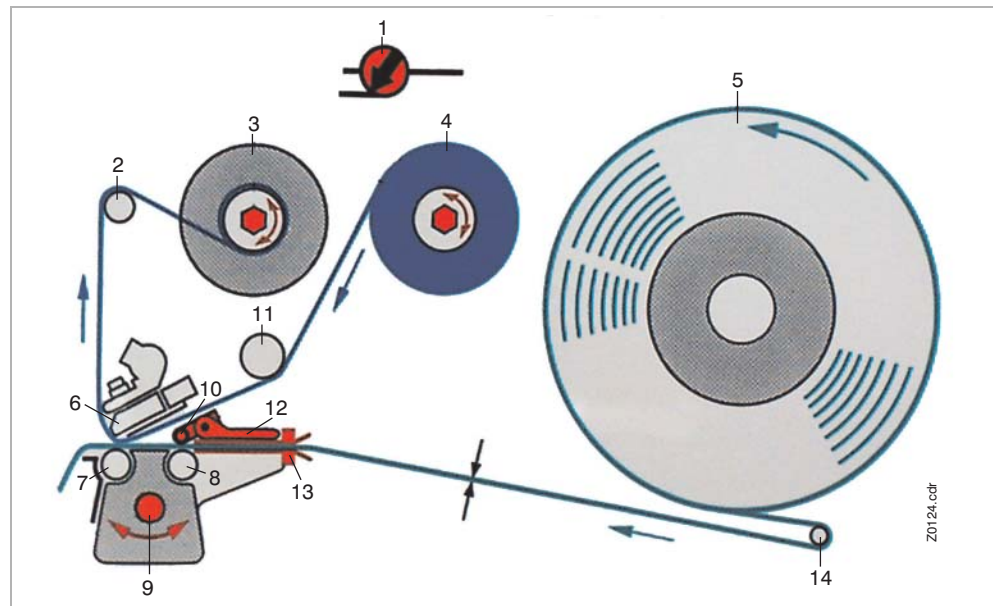
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Winding diagrams

The winding diagrams show the winding direction of material and ribbon through the 64-xx or through the 64-xx dispenser printer. You must follow this basic schema when inserting/changing material and ribbon.

▣▣▣▣ Ribbon and material should only be inserted/changed by specially trained personnel.

64-xx



[1] This is how to insert material and ribbon correctly in the 64-xx or Chess x.

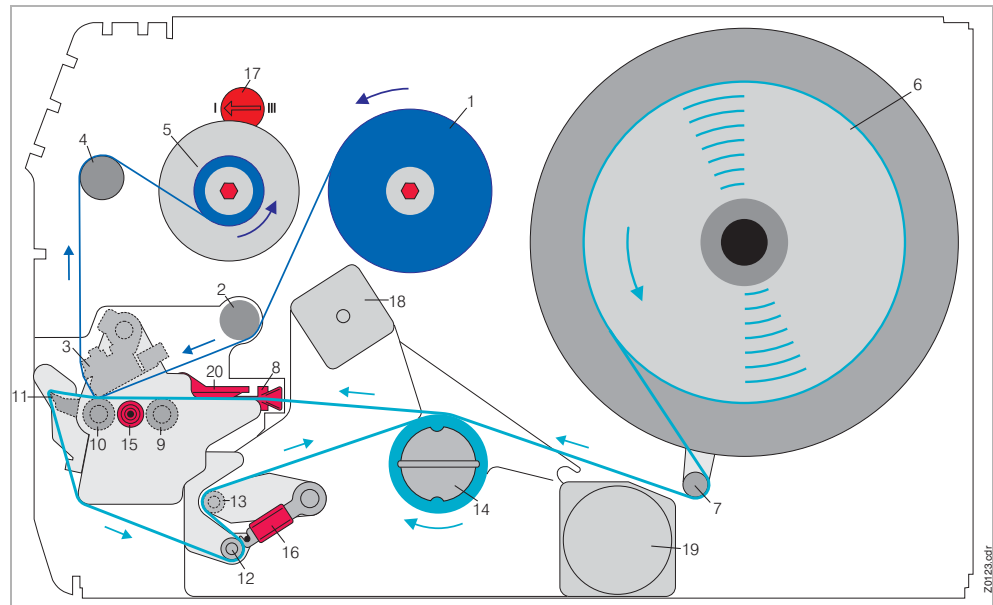
Designation of parts

No.	Designation	No.	Designation
1	Adjusting knob for print head contact pressure	8	Feed roller
2	Ribbon roller	9	Adjusting knob for punch sensor
3	Ribbon rewind mandrel	10	Pad rollers
4	Ribbon unwind mandrel	11	Ribbon deflector
5	Material unwinder	12	Opener
6	Print head	13	Material guide
7	Print roller	14	Dancer arm

[Tab. 1] Designation of parts on the 64-xx.

64-xx – 64-xx dispenser

64-xx dispenser



[15] This is how to insert material and ribbon correctly in the 64-xx dispenser (each of type M).

Designation of parts

No.	Designation	No.	Designation
1	Ribbon unwind mandrel	11	Dispensing edge
2	Ribbon deflector	12	Feed roller
3	Print head	13	Deflection roller
4	Ribbon roller	14	Rewinder
5	Ribbon rewind mandrel	15	Adjusting knob for punch sensor
6	Material unwinder	16	Locking lever
7	Dancer arm	17	Adjusting knob for print head contact pressure
8	Material guide	18	Clutch release motor
9	Feed roller	19	Rewinder motor
10	Print roller	20	Opener

[Tab. 2] Designation of parts on the 64-xx dispenser.

Selecting ribbon/material

Label material

When selecting the material, you must take 3 factors into account:

- the abrasive behavior of the surface structure of the material;
- the properties with regard to the chemical reaction when printing ink is transferred;
- the temperature required to transfer the ink.

Abrasive behavior

If the material is very abrasive, the print head becomes “worn down” quicker than would normally be the case. This criterion is of particular importance in thermoprinting. It is not so critical in the case of thermotransfer printing, as the ribbon can be chosen to be somewhat wider than the material, ensuring that the print head is protected across the entire width of the material.

Head temperature

The same applies if the temperature of the print head is high. Material and ribbon need longer to cool down, the print quality is more critical and the print head will wear down sooner.

For papers with grammages greater than 240 g, it may be necessary to make adjustments with regard to the contact pressure and the position of the print head.

Thermotransfer ribbon

For ribbon, we recommend the following:

- the reverse side of the ribbon must have an antistatic, friction-reducing coating (backcoating);
- ribbons must be specified for “near edge type print heads”;
- ribbons should be suitable for print speeds of up to 12 inch/sec. (300 mm/s).



!!!➡ Ribbon without these properties can reduce the performance of the printer and/or the print quality as well as damage the print head!

Inserting material



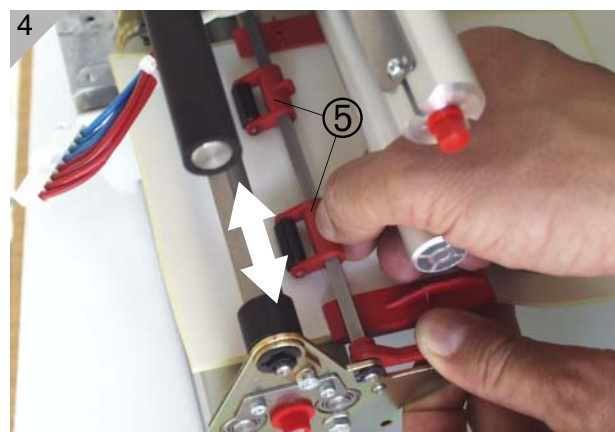
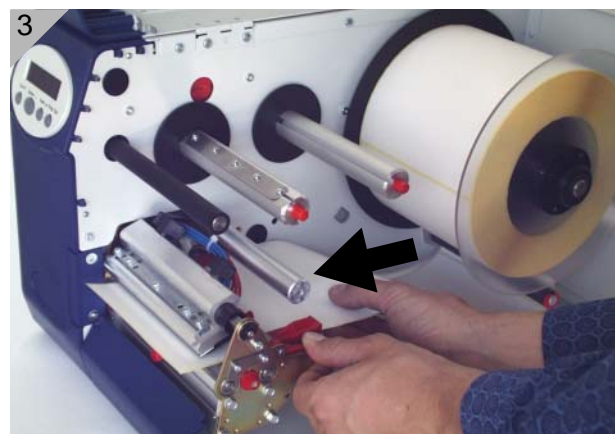
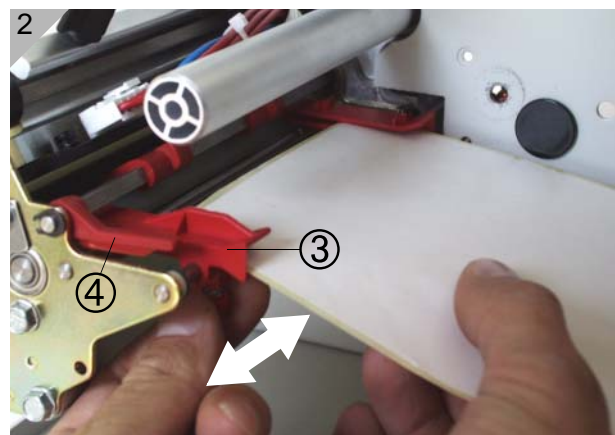
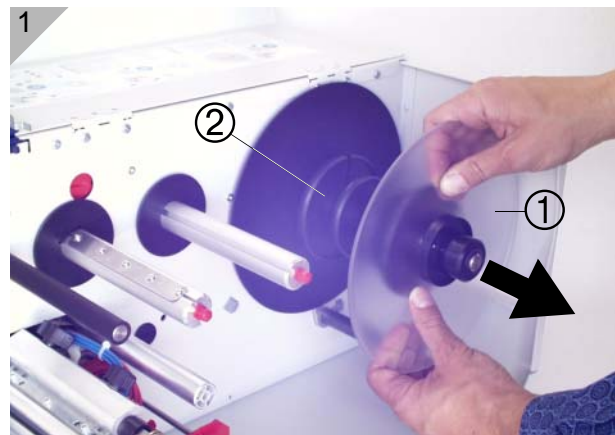
CAUTION!

Rotating axles! These can pull in and tear off hair, clothing and jewelry.

- Do not operate the machine with the hood open!
- Keep long hair, loose clothing, jewelry etc. well away from the machine!

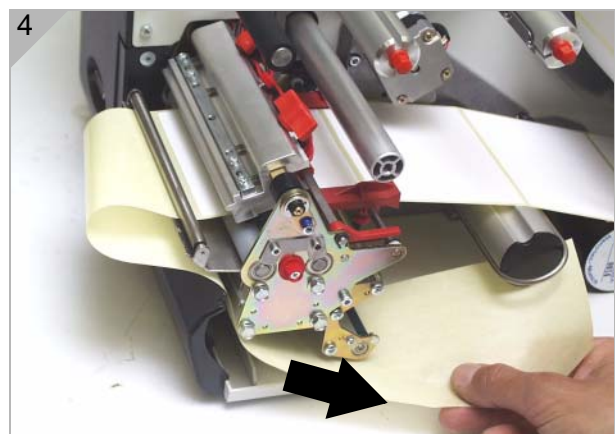
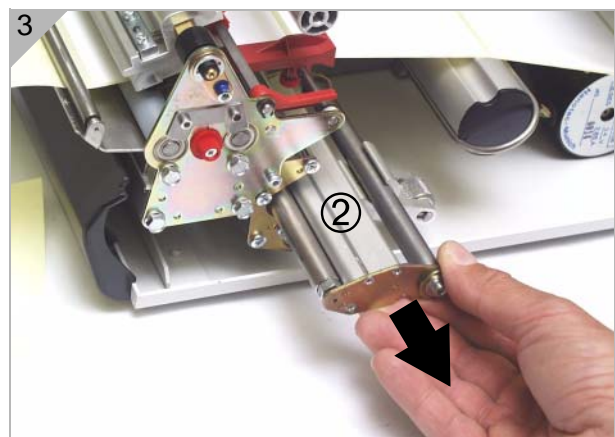
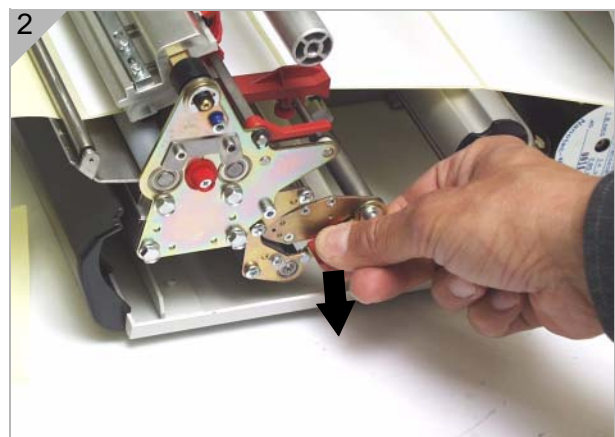
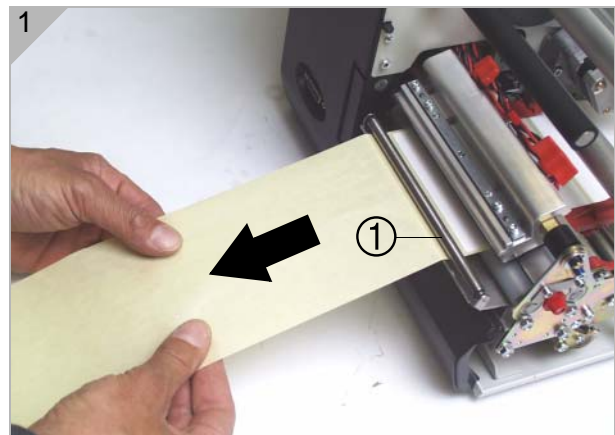
- 64-xx/Chess x standard unit:
Steps 1 to 8
- 64-xx/Chess x dispenser version:
Steps 1 to 18

1. Open the hood of the unit.
2. Pull off the outer guide disk (1) of the unwinder (2).
3. Creel material on the unwinder with the corresponding adapter rings. The roll of material should turn anti-clockwise when unwinding.
4. Refit the outer guide disk of the unwinder.
5. Lay material around the dancer arm.
6. Set the material guide to the width of the label material. To do this, loosen the knurled screw on the underside of the front material guide (3). Push the material guide sideways. Tighten the knurled screw again (Fig. 2).
7. Press the red opener (4) of the intake in order to raise the pad rollers. With the opener depressed, push the start of the material through the material guide until it is below the print head (Fig. 3).
8. Align the material so that it is taken in straight. With the loading lever depressed, position the pad rollers of the printing unit in such a way that both rollers (5) sit symmetrically on the material. (The print head has been removed in Fig. 4 to allow a better view).



Only dispenser version:

9. Guide material through under the dispenser roller (1).
 10. Pull labels off the backing paper over a length of about 50 cm (Fig. 1).
 11. Open the locking lever (press downwards, Fig. 2) and swivel it half a revolution to the rear.
 12. Pull the drawing module (2) all the way out (Fig. 3).
 13. Guide the backing paper under the print module to the rear (Fig. 4).
- Continued on next page.



14. Guide the backing paper around the feed roller (1) and guide pins (2) of the drawing module to form an S shape (Fig. 1).

15. Put the drawing module back in again (Fig. 2).

⚠ On insertion, it is essential that the locking lever points to the right (= half a revolution open). Do not lock it until the drawing module has been pushed in all the way to the limit stop!

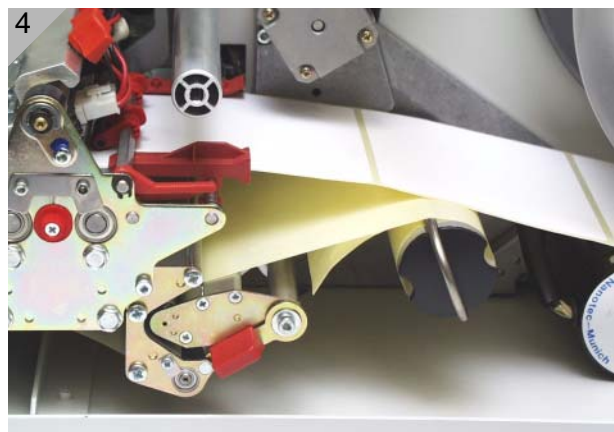
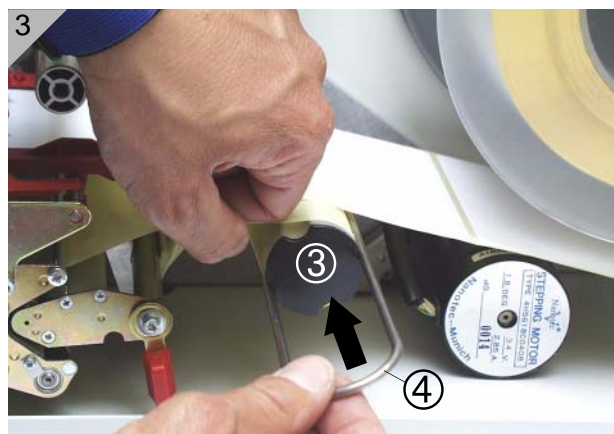
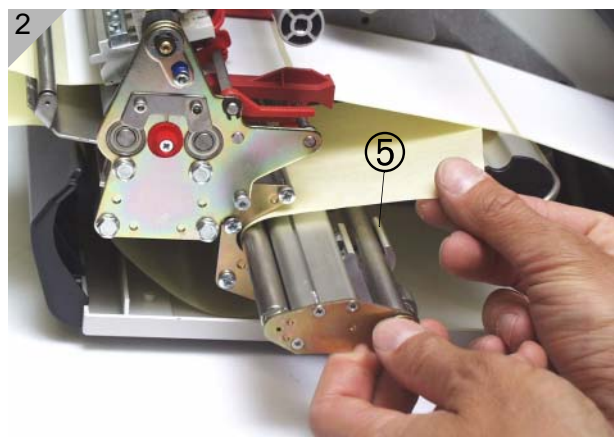
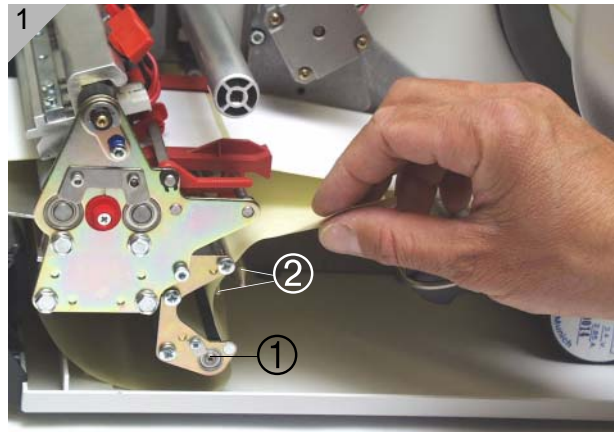


16. Wind the end of the backing paper clockwise around the rewinder (3) and fix with the clip (4) (Figs. 3 and 4).

17. Position the block bearing the pressure roller (5) in the middle of the backing paper.

⚠ This is important for proper transport of the backing paper around the dispensing edge!

18. Lock the locking lever (Fig. 4).



Inserting fan-folded material

1. Set the outer disc of the material unwinder to the width of the material.
2. Pull the material through the inlet opening (1) to the material guide with the side to be printed showing upwards.
3. Then proceed as described in section [Inserting material](#) on page 5.

[1] *Pull the fan-folded material through the inlet opening in the rear side and proceed then as described under „Inserting material“.*



Changing material

Proceed as described in the following to replace an inserted material roll before it comes to an end.

▮▮▮▮ The printer must be switched on; otherwise, the printhead presses on the material.

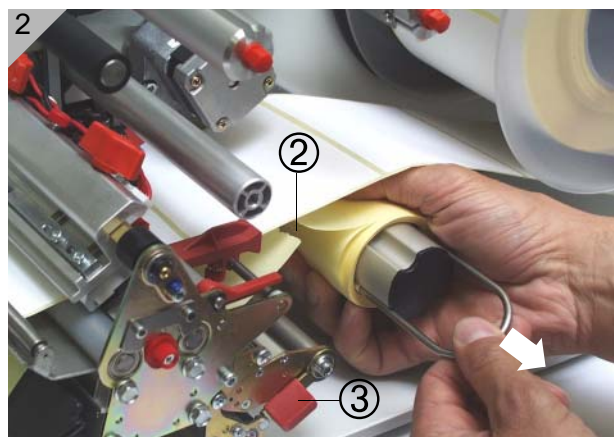
64-xx

1. Switch the printer to offline mode and open the front hood.
2. To remove the material, press the opener while at the same time pulling the material away to the rear (Fig. 2).

64-xx dispenser

1. Switch the printer to offline mode and open the front hood.
2. Tear the backing paper off (2), pull out the clip (Fig. 3) and remove the wound up backing paper (Fig. 4).
3. Open the shutter (3) and pull out the remaining backing paper towards the dispensing edge.
4. To remove the material, press the opener while at the same time pulling the material away to the rear (Fig. 2).

▮▮▮▮ It is also possible to convey the material backwards out of the print module by pressing the Online+Cut keys in offline mode.



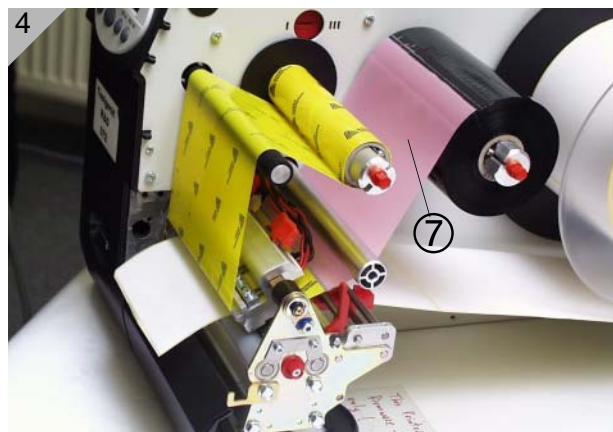
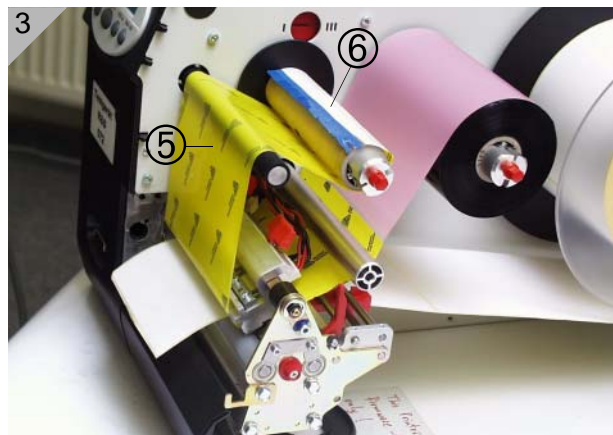
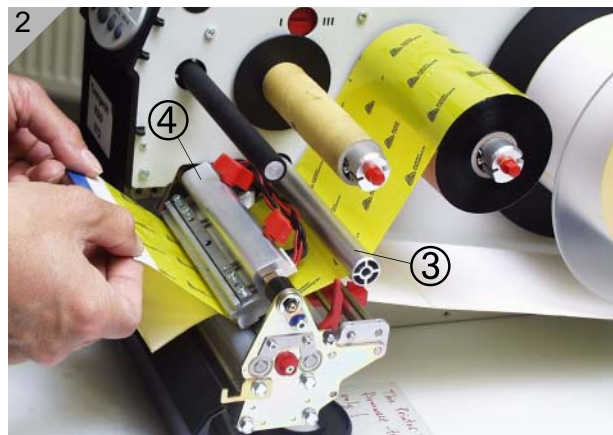
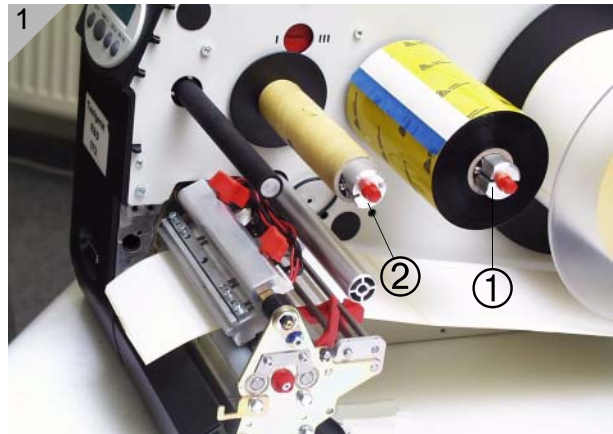
Inserting ribbon

1. Switch the printer on.
2. Open the hood of the printer.
3. Place the roll of ribbon on the right ribbon mandrel (1) so that it can unwind anti-clockwise.
4. Place the empty ribbon core on the left mandrel (2).
5. Lead the end of the protective ribbon (yellow here) under the ribbon deflector (3) and print head (4).
6. Then pull the (protective) ribbon upwards and lay it over the ribbon roller (5).
7. Lead the (protective) ribbon under the rewriter mandrel (2) and secure it on the empty ribbon core using the self-adhesive strip (6) (Fig. 3).

⚠ In many types of ribbon, the protective ribbon (shown in yellow in the illustration) is followed by a strip of cleaning ribbon (7) which serves to remove contamination from the print head. It is essential that the material is inserted as described so that the cleaning effect is guaranteed!



8. Check that the ribbon is free of folds and is running true. Tension the ribbon by hand if necessary.



Material / Ribbon end

Material end

If the material end has passed the material guiding, the following status message appears:

Status	5002
Material end	

1. Press the opener and pull the remaining material from the front side (display side) out of the print unit.
 2. Only dispenser version:
Open the shutter and pull the remaining backing paper in direction rewriter out of the print unit.
 3. Take the clip off the rewriter and remove the wound up backing paper.
- For additional information read section [Changing material](#) on page 9.

Ribbon end

If the ribbon roll is emptied, that is the ribbon unwinding mandrel stopped turning, the following status message appears:

Status	5008
Ribbon end	

- Proceed as described in section [Inserting ribbon](#) on page 10.
- The ribbon end detection can be switched off, e.g. for thermal printing.
- To do so, set the parameter `SYSTEM PARAMETERS > Ribbon autoecon.` to „thermal printing“.

Rewriter full

▣→ Only for dispenser versions!

The dispenser rewriter can wind up the backing paper of a roll with 210 mm outer diameter and 4“ (102 mm) core inner diameter. If the maximum capacity of the rewriter is reached, the following status message appears:

Status	5064
Rewriter full	

- Proceed as described in section [Changing material](#) on page 9.
- ▣→ Best clear the rewriter after every printed material roll!

Settings for all printers

Ribbon tension

The torques of the ribbon unwind mandrel (1) and ribbon rewind mandrel (2) can be set using the red plastic hexagons on the ribbon mandrels. If these are turned clockwise, the torque increases (Fig. 1: dispenser version).

Factory settings

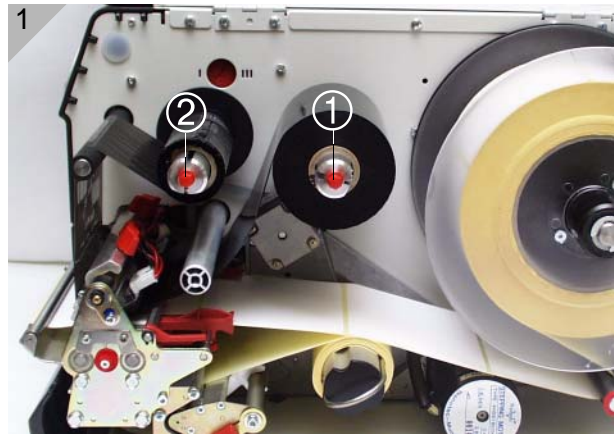
The factory setting covers a wide range of different ribbon widths, but very narrow or very wide ribbons may necessitate readjustment.

Setting

During feeding, the ribbon must run evenly and free of folds for the entire length between the mandrels. The following guidelines will facilitate setting:

The ribbon is loose or creased or is wound on the rewind mandrel too loosely.

- ➔ Increase the unwind/rewind torque (Turn the red hex nut clockwise).
The ribbon visibly stretches or tears during printing. The ribbon is inadequately transported.
- ➔ Decrease the unwind/rewind torque (Turn the red hex nut counter clockwise).
- More details about setting the ribbon tension can be found under “Adjusting the ribbon brake” in the “Service print module” section of the 64-xx service manual.



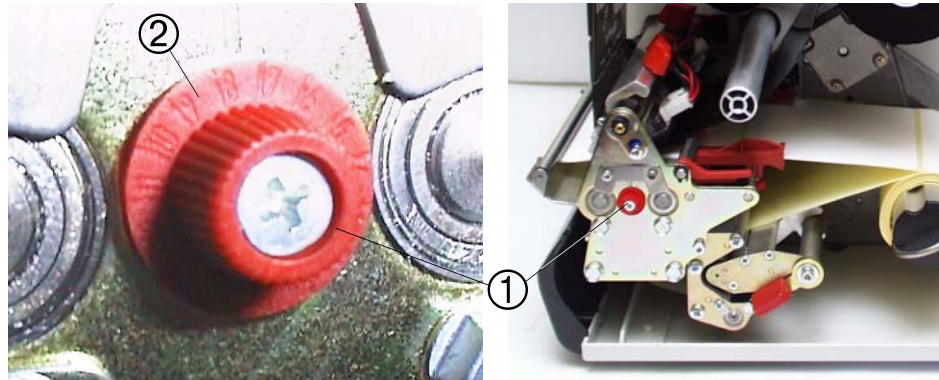
Material light barrier

The series 64-xx printers are fitted with transmitted-light light barriers.

Reflector light barriers are also available as an option.

To set

Setting is performed by means of the red rotary knob (1) on the outside of the print module. The light barrier can be adjusted in a range of 15 mm transverse to the material by turning the rotary knob. A dial (2) shows the setting value from 0 to 15.



[1] The red adjusting knob (1) is used to adjust the lateral position of the punch light barrier (figure: dispenser version).

Setting value

Light barrier	Setting value =
Transmitted light	Punch position - 2 mm
Reflector	Punch position - 13 mm

[Tab. 1] How to determine the setting value for the punch light barrier. (Punch position = distance of punch center from (inner) edge of material (3); setting value = dial value to be set by turning the red wheel)



[2] Punch position = distance of punch center from (inner) edge of material (3).

→ To set, turn the rotary knob (1) until the desired setting value is opposite the marking.

Example

(for transmitted-light light barriers) center of punch from left edge = 11 mm, from which 2 mm deducted, giving a setting value of 9 mm.

▮ For round labels, it is possible to perform a preliminary setting of the punch offset manually on the printer (parameter `PRINT PARAMETERS > X - print offset`) or by activation in order to capture the start of the labels correctly.

Print head contact pressure

Different material widths and/or material thicknesses have an effect on the contact pressure of the thermal strip on the feed roller.

The contact pressure can be set in 3 steps:

- I Position for 64-04/05 or for thin/narrow material up to the maximum print width of the 64-05 (1)
- II Position for 64-06 or for average material up to the maximum print width of the 64-06 (2)
- III Position for 64-08 or for thick/wide material up to the maximum print width of the 64-08 (3)

To set:

The red adjusting screw (4) sits above the ribbon roller and can be turned by means of a coin.

- For medium head contact pressure, turn the arrow to position II until it engages.
- For greater head contact pressure, turn the arrow to position III until it engages.

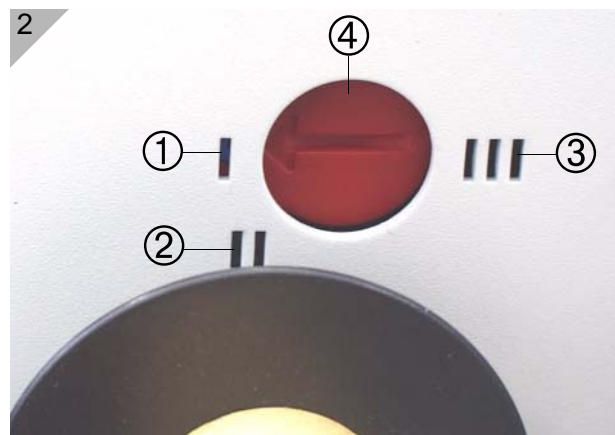
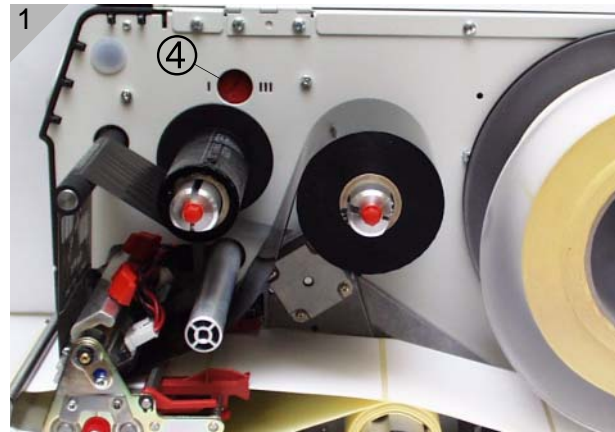
Always choose the lightest contact pressure that will produce an acceptable printing result. This will help to protect the print head and the entire unit.

Excess contact pressure can lead to premature wear on the print head.



Factory setting:

Position 1, thin/narrow material

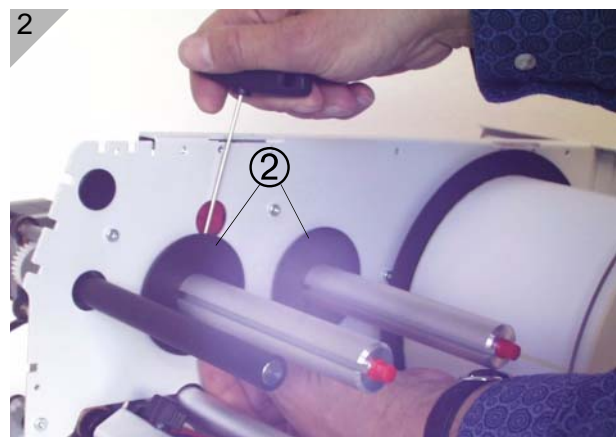
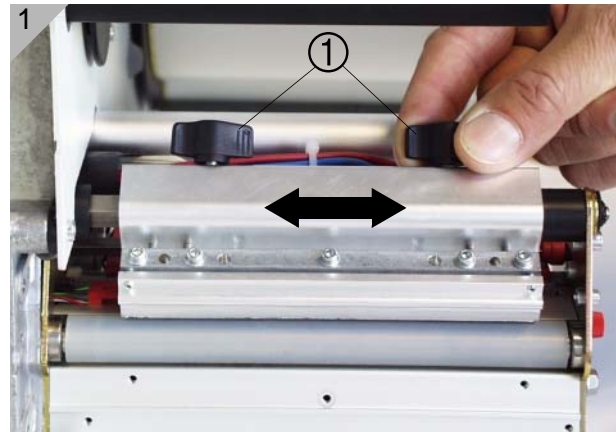


Adjusting the position of the print head

☛ Only for the standard version of 64-05/06/08!

The print head 0 line can be adjusted variably from 2 mm (from the left edge of the label) to 13 mm:

1. Loosen both thumb screws (1) and push the print head to the desired position.
☛ The print head does not have to be taken off!
2. Tighten the screws again.
3. Loosen the stud screws at the black plastic disks (2) using a 2 mm allen key (one screw per disk).
4. Adjust the plastic disks to the same position as the inside of the print head.
5. Tighten the stud screws again.



Material parameters

The following three parameters are used to tell the printer the properties of the label material with which you would like to work:

Parameter	Function
PRINT PARAMETER > material type	Sets the type of material (punched or continuous)
PRINT PARAMETER > material length	Sets the length of material
PRINT PARAMETER > material width	Sets the width of the material
SYSTEM PARAMETER > light sens. type	Sets the type of light barrier (reflector or transmitted light) suitable for the material (marks or punches)

[Tab. 1] *Important parameters for setting material properties*

- Advice on setting parameters can be found under “Operating the parameter menu” in the topic section “Info printouts and parameters”.

Settings for dispensing printers

☛ Only valid for the dispenser versions!

The 64-xx respectively is optionally delivered as Dispenser M or Dispenser A version. The versions are designed for different cases of application (see [Tab. 2]).

	Application	Dispensing edge	Single-Start connector	USI interface	Foot switch
64-xx dispenser M	Printing/dispensing is triggered manually. The dispensed labels are taken off by hand.	short, with light barrier	✓	optional	optional
64-xx dispenser A	Printing/dispensing is triggered by a signal of the USI. Taking off the dispensed label by hand or by an applicator.	long, without light barrier	✓	optional	optional

[Tab. 2] Different configuration of Dispenser M and Dispenser A.

Basic setting

The following table (see [Tab. 3]) shows a basic setting for those parameters which are most important for dispenser operation. The setting is as well for type M as for type A with the purpose of using a foot switch.

The two dispenser versions differ from each other in the parameters provided in the parameter menu. Type A has - with the optional USI interface installed - additional parameters for setting the USI (submenu DP INTERFACE).

Submenu	Parameter	Setting
PRINT PARAMETERS	Dispense Mode	Real 1:1 Mode
	Dispensposition	0 mm
SYSTEM PARAMETERS	Periph. device	Dispenser
	External signal	Singlestart
	Dispensing mode	fast
	Application mode	manual
	Start mode	Edge
	Start source	Foot switch
	Dispensing edge	short
	Transport mode	Dispenser motor
	Signal edge	Falling edge

[Tab. 3] Basic setting of the parameters most important for dispenser operation - valid for both dispenser versions.

☛ It is *not* possible to connect two foot switches to the printer (USI and Single Start) and use them simultaneously.

- Advice on setting parameters can be found under “Operating the parameter menu” in the topic section “Info printouts and parameters”.

Parameters for dispenser version M

The printing/dispensing process can be triggered in two different ways:

Foot switch

The values preset by the manufacturer (see [Tab. 3]) are valid for manual triggering of the printing/dispensing via the Single-Start connector, e.g. using a foot switch. After pressing the foot switch, one label is printed and dispensed.

Light barrier

The dispensed label triggers a light barrier. This stops the printing/dispensing until the user takes the label off. Then, the printer moves the material back under the print head (only if „Real 1:1 Mode“ is selected, see parameter PRINT PARAMETERS > Dispense mode) and prints and dispenses the next label.

Change the basic parameter setting as follows to use the light barrier for triggering:

- Set SYSTEM PARAMETERS > Start source to „Light barrier“.

Parameters for dispenser version A

Printers with dispenser version A are equipped with a longer dispensing edge which leaves enough space for closing the hood with an applicator mounted. This long dispensing edge has no light barrier.

Applicator

Dispenser version A is designed to be used with an applicator as well as with the USI interface. The printing/dispensing process can be triggered via the Single-Start connector or via the USI (see [Tab. 4]).

Submenu	Parameter	Setting
PRINT PARAMETERS	Dispense Mode	Echter 1:1 Modus
	Dispensposition	0 mm
SYSTEM PARAMETERS	Periph. device	Dispenser
	External signal	Singlestart
	Dispensing mode	fast
	Application mode	LTS 80/200
	Start mode	Edge
	Start source	USI
	Dispensing edge	long
	Transport mode	Dispenser motor
	Signal edge	Falling edge

[Tab. 4] Basic setting for dispenser version A - To be used with applicator (here: Licht Touch Sensor 80/200) and USI interface.

Triggering the printing/dispensing via the Single-Start connector:

- Set SYSTEM PARAMETERS > Start source to „Foot switch“.

- Information about using a start signal can be found in topic section „Advanced Applications“, chapter „Printing with start signal“.
- Advice on setting parameters can be found under “Operating the parameter menu” in the topic section “Info printouts and parameters”.

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General Notes

Servicing by trained personnel

Regular and proper servicing is necessary in order to ensure that the device is permanently ready for operation.

Qualification


Servicing and repair work may only be carried out by appropriately qualified personnel. The safety, reliability and long service life of the device depend on such work being carried out correctly.

➡ Damage which is caused by improper servicing, repairs or care is the responsibility of the person causing it.

Manufacturer service

For reliable servicing, maintenance, diagnosis and fault correction please contact your supplier, the nearest customer service centre or any other service centres authorised by the manufacturer.

Safety

	<p>WARNING!</p> <p>Dangerous situations can arise during servicing and repair work. Accidents can be caused by mechanical or electrical influences if the appropriate safety instructions are not heeded!</p> <ul style="list-style-type: none"> ➔ Switch off the device during servicing, repair and care work! ➔ Take the utmost care when cleaning the cutter! ➔ Repairs to the printer may only be performed by authorized specialists who are aware of the risks being involved!
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Fault correction

Status

In the event of faults occurring on the device, evaluate the status reports of the device before doing anything. Read the corresponding chapter in this documentation.

Call servicing

If you are not authorised to carry out diagnosis and fault correction work, call your technician or the authorised service. The appropriate documentation and spare parts are available to the service personnel in order to carry out repair work of a sufficient quality.

Ordering spare parts

- ▶ Only use original spare parts from the manufacturer. The use of parts which do not satisfy the high demands set by the printer manufacturer can cause unnecessary problems.

The following information is necessary when ordering:

Order information

- Type of device
- Serial number of the device
- Optional fittings for the device
- Designation and part number of the spare part
- Number of parts required

Servicing and cleaning

Notes for cleaning

Intervals

Regular servicing and cleaning work is necessary for safe operation and high running performance. The servicing intervals are dependent on the operation and ambient conditions, daily operating times and the print medium.

- ▣▣▣▣➔ Regularly clean the print head and feed roller of paper, adhesive and ink residues.

Cleaning agents

Part to be cleaned	Cleaning agent	Ordering no.
Printhead	Printhead cleaning pen	95327
	Cleaning strips	A3724
Rubber rollers (e.g. print roller, feed roller, brake roller)	Cleaning agent for rubber rollers	98925
Deflection axles or tubes made of metal	Methylated spirit	90073
	Label remover	
Outer surfaces	Comercially available neutral cleaning agents	

Tab. 1 Recommended cleaning agents.



- ▣▣▣▣➔ CAUTION! - Do not use any cleaning agents which could damage or destroy the coating surfaces, labelling, display, type plates, electrical components etc.
- ▣▣▣▣➔ CAUTION! - Under no circumstances should you use scouring or synthetic solvent cleaning agents. Avoid acidic and alkaline solutions.

Printhead

Cleaning the print head

1. Switch off the device.
2. Pull out the mains plug.
3. Remove material and ribbon.
4. Unscrew the two thumb screws on the print head mounting until the entire printhead mounting can be rotated upwards on the contact shaft.



CAUTION! - The printhead is a sensitive electronic component and can be damaged by electrostatic charges. Therefore, discharge any bodily static electricity before coming into contact with the print head by touching the base plate of the printer. The printhead does not need to be removed. Mark the position of the printhead on the axle, if it is not flushed against the inner or outer plastic ring.

5. Clean the print head using a dust-free cloth and cleaning fuel.

Fig. 1 Cleaning of the printhead – the printhead needs not to be unplugged (Fig: Dispenser version).



- CAUTION! - Do not use any objects with sharp edges. Metal objects may never be allowed to come into contact with the print head surface!
6. After cleaning, return the print head mounting to its old position and retighten the thumb screws.
 - Press the thumb screw on the tapered edge of the square axle and ensure the exact positioning of the print head mounting on the axle. Also pay attention to the position of the print head in relation to the edge of the label.

Basic factory settings: Flush against the inner black plastic plug.

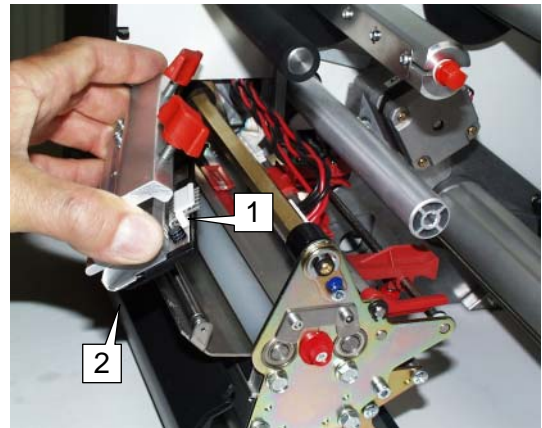
7. Before switching on the device, check whether the print head cable is still properly connected. If this is not the case, plug in the cable correctly.

Changing the print head

The print head is adjusted to the print head mounting during manufacture. As a result the print head can only be replaced in conjunction with the print head mounting.

1. Switch off the device.
2. Pull out the mains plug.
3. Remove material and ribbon.
4. Pull out both plugs in a horizontal direction from the print head.
- ⚡➡ Wait at least 3 minutes after switching off the device before removing the print head cable from the print head. Mark the position of an axially adjusted print head.
6. Unscrew the two thumb screws on the print head mounting until the entire print head mounting can be removed from the contact shaft (Fig. 2).

Fig. 2 Take care not to touch the connector contacts (1) or the thermal edge (2) when removing the printhead!



⚡➡ **CAUTION!** - The print head is a sensitive electronic component and can be damaged by electrostatic charges. Therefore, discharge any bodily static electricity before coming into contact with the print head by touching the base plate of the printer. The print head may not be touched on the print bar or on the plug-in contacts.

8. To install, move the new print head mounting to the old position and tighten the thumb screws.
- ⚡➡ Before doing this make a note of the resistance value of the print head (read off from the print head). When placing the print head on the print head mounting, ensure that the print head is lying flat.
- ⚡➡ Press the thumb screw on the tapered edge of the square axle and ensure the exact positioning of the print head mounting on the axle. Also pay attention to the position of the print head in relation to the edge of the label.

Basic factory settings: Flush against the inner black plastic plug.

9. Plug the print head cable back into the print head.
10. The resistance value of the print head must be entered after putting the printer into operation using the parameter `SYSTEM PARAMETERS > Head resistance`.



- ➡ Entering a false value can damage the print head!
- Please also read the Service Manual, topic section "Service print module", paragraph "Exchanging the printhead".
- ➡ If the printout is worse than before, after a new printhead was installed, the printhead position has possibly to be adjusted. This setting should be done by a service technician.
- For details refer to the Service Manual, topic section "Mechanics", chapter "Printhead adjustment" / "Adjusting the printhead position".

Checking the print head

The printers of the 64-xx series are provided with a test function, which tests the functionality of every single dot (dot check).

There are two different modes of operation with three different possibilities to start a dot check:

Dot check modes	Call by
Automatic dot check	Automatic execution after powering on or in printing pauses. To activate the automatic, refer to parameter <code>SYSTEM PARAMETERS > Autom. dot check</code>
	Easy Plug: Add an optional D to the obligatory <code>#ER</code> command (-> <code>#ERD</code>) to trigger a dot check at the end of the print job.
Dot check on demand	Dot check with subsequent status report that informs about the number and the location of the defective dots. Parameter <code>SERVICE FUNCTIONS > Head dot test</code>
	Dot check with subsequent printing of a pattern which visualizes the test result. Parameter "PRINT INFO/ Dottest endless/punched".
	In Off-line mode by pressing the Apply+Feed buttons. Equals the call by parameter „Head dot test“, but without the status report. Defective dots are displayed by status messages.

Tab. 2 The five ways to start a dot check.

Display message

Die Displayanzeige für einen defekten Dot ist bei allen Dottestvarianten:

```
Status:          5103
Dot defective
```

If all dots are faultless, no display message appears.

Duration

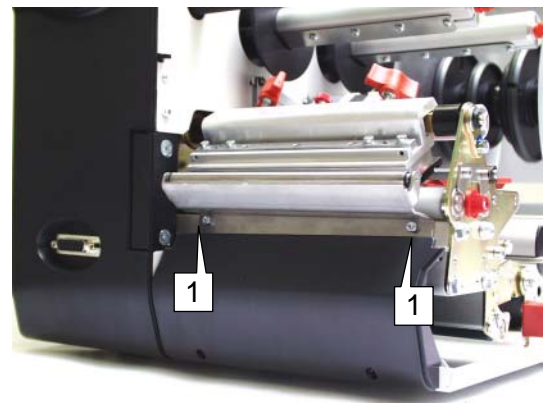
All five ways of dot checking test the entire printhead width. Therefore, the test procedure may take from 10 s up to several minutes time (the wider the printhead is and the more dots are defective, the longer).

Rubber rollers

Cleaning the print roller

1. Switch off the device.
2. Pull out the mains plug.
3. Remove material and ribbon.
4. Only dispenser version: Remove the dispensing edge to gain easier access to the print roller. To do so, unscrew both holding screws (1) ().

Fig. 3 When using a 64-xx dispenser or Chess x dispenser, remove the dispensing edge to gain easier access to the print roller.



5. Unscrew the two thumb screws on the print head mounting until the entire print head mounting can be rotated upwards on the contact shaft.
- See paragraph "[Cleaning the print head](#)" on page 5.
- ➡ The print head may or does not need to be removed. Mark the position of the printhead on the axle, if it is not flushed against the inner or outer plastic ring.
6. Now the print roller can be easily accessed from ahead. The rollers should be turned gradually in order to clean them properly.

Fig. 4 Rotate the printhead upwards before cleaning it.





- CAUTION! - Only clean the print roller with a dust-free cloth and roller cleaner. Never use knives or sharp-edged objects to clean the rollers!

Keeping impurities and dirt of any description away from the printing area generally increases the running performance of the printer, and especially that of the print head. The print image is also adversely affected by dirt and other impurities.

7. After cleaning, return the print head mounting to its old position and retighten the thumb screws.
- Press the thumb screw on the tapered edge of the square axle and ensure the exact positioning of the print head mounting on the axle. Also pay attention to the position of the print head in relation to the edge of the label.

Basic factory settings: Flush against the inner black plastic plug.

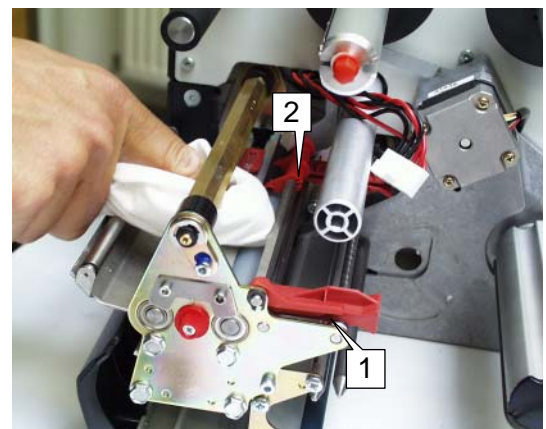
8. Before switching on the device, check whether the print head cable is still properly connected. If this is not the case, plug in the cable correctly.

Cleaning the feed roller

Every now and then, the feed roller and the contact pressure rollers should be cleaned.

1. Switch off the device.
2. Pull out the mains plug.
3. Remove material and ribbon.
4. Remove the printhead.
- For detailed information refer to chapter "[Changing the print head](#)" on page 6.
5. Turn the feed roller stepwise while cleaning it using a cloth (Fig. 5) and rubber cleaner until the entire roller is free of residue.
- Shift the front material guiding (1) and the contact pressure rollers (2) for better access to the roller.

Fig. 5 In order to clean the feed roller remove the printhead and shift material guiding (1) and contact pressure rollers (2) aside.



7. After cleaning, return the print head mounting to its old position and retighten the thumb screws.
- ▣▣▣▣➔ Press the thumb screw on the tapered edge of the square axle and ensure the exact positioning of the print head mounting on the axle. Also pay attention to the position of the print head in relation to the edge of the label.
Basic factory settings: Flush against the inner black plastic plug.
8. Before switching on the device, check whether the print head cable is still properly connected. If this is not the case, plug in the cable correctly.

Cleaning the dispenser-feed-roller

- ▣▣▣▣➔ Only for 64-xx dispenser!
 1. Switch off the device.
 2. Pull out the mains plug.
 3. Remove material and ribbon.
 4. Pull out the pull-out module (, left side).
- Read in any case paragraph "Inserting material" in topic section "Setup"!



Fig. 6 Left side: pulling out the pull-out module; right side: cleaning the dispenser-feed-roller using roller cleaner.

5. Turn the feed roller stepwise while cleaning it using a cloth (Fig. 6, right side) and rubber cleaner until the entire roller is free of residue.
6. Remount the pull-out module.

Photoelectric switches

Cleaning the gap photoelectric switch

1. Switch off the device.
 2. Pull out the mains plug.
 3. Remove material and ribbon.
 4. Unscrew the two thumb screws on the print head mounting the entire print head mounting can be rotated upwards on the contact shaft.
- See paragraph "[Cleaning the print head](#)" on page 5.
- ▣ The print head does not need to be removed. Mark the position of the printhead on the axle, if it is not flushed against the inner or outer plastic ring.
- The gap photoelectric switch can now be easily accessed from above.
5. Clean the gap photoelectric switch with compressed air (compressed air can be ordered in a can as an accessory).
- ▣ Additionally clean it using cleaning fuel and a dust-free cloth if it is particularly dirty.
6. After cleaning, return the print head mounting to its old position and retighten the thumb screws.
- ▣ Press the thumb screw on the tapered edge of the square axle and ensure the exact positioning of the print head mounting on the axle. Also pay attention to the position of the print head in relation to the edge of the label.
- Basic factory settings: Flush against the inner black plastic plug.
7. Before switching on the device, check whether the print head cable is still properly connected. If this is not the case, plug in the cable correctly.

Cleaning the material end photoelectric switch

The material end photoelectric switch is located on the inner red material feed on the print module. It is necessary to regularly clean the photoelectric switch of material and dust particles. The cleaning intervals are dependent on the materials being used.

- Clean the material end photoelectric switch with compressed air (compressed air can be ordered in a can as an accessory).
- ▣ Additionally clean it using cleaning fuel and a dust-free cloth if it is particularly dirty.

Cleaning the cutter

▣▣▣▣➔ Only with cutter option!



WARNING!

Sharp blades may cause cut injuries at hands and fingers!

- ➔ Take the utmost caution when cleaning the cutters!
- ➔ Do not touch the cutters with bare hands!

When self-adhesive material is being used, removal of glue residue is necessary at regular intervals to ensure that material continues to be cut and transported correctly. Paper scraps and adhesive can cause malfunctions.



▣▣▣▣➔ CAUTION! - Use non-fluff cloths and cleaning fuel for cleaning. Never work on the cutter blades with hard metal objects! Even the slightest, non-visible damage to the blade can considerably reduce the cutting ability of the blade.

1. Switch off the device and pull out the mains plug.
2. Remove material and ribbon.
3. Remove glue residue from the top and bottom cutters. It may be necessary to slightly swivel the cutter on order to access the entire cutting edge.

Cleaning/exchanging the dust filter liner

Important notes

The dust filter is an option (article number A9344). The filter is mounted in front of the fan opening at the printer rear side.

- ▣ Installation must be done by a qualified service technician.
- Installation instruction see service manual, topic section „Service Mechanics“, chapter „Assembling accessories“, “Dustfilter”.



CAUTION!

An exhausted filter liner can cause the power supply to overheat and the device to break down.

→ Replace the filter liner regularly, at least in monthly intervals.

- ▣ The replacement interval of the filter liner has to be defined individually according to...
 - dust occurrence
 - operating times
- ▣ The filter liner can be cleaned by blowing it out with compressed air or by washing it out.

Exchanging the filter liner



Fig. 7 64-08 with mounted dust filter (A).

1. Turn the screw (B) at the filter holder ¼ rotation.
2. Remove the filter holder. Take the filter liner (A) out of the filter holder.
3. Insert a new filter liner (article no. A2581).
Alternativ: Clean the filter liner by blowing it out with compressed air or wash it out and dry it and insert it afterwards.
4. Press the filter holder against the rear side and turn the screw (B) ¼ rotation.

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Device Types, Use

Printer names

64-0x

The x in the printer name is a placeholder for the numbers 4, 5, 6 or 8. The higher this number is, the wider label material can be used with this printer (roughly, the number equals the max. printwidth in inches).

Gen. 2 / Gen. 3

This documentation refers to 64-0x printers with two different generations of CPU boards:

- Gen. 2: CPU boards with article number A2292 (with Ethernet) or A2293 (without Ethernet). Those printers are *not* RoHS-compliant.
- Gen. 3: CPU board with article number A6621. Those printers are RoHS-compliant.

If a chapter refers to only one of both generations, the generation is added to the printer name („64-0x Gen. 2“ or „64-0x Gen. 3“).

64-0x Basic

- Monotone printing of labelling materials for thermal and thermotransfer processes
- Printing on different materials, e.g. cardboard or self-adhesive labels
- Processing roll and fan-folded material
- Print width:
 - 64-04 up to 106.6 mm
 - 64-05 up to 127.9 mm
 - 64-06 up to 159.9 mm
 - 64-08 up to 213.2 mm
- Resolution: 300 dpi
- Interfaces: RS 232, RS 422/485 (optional), USB, Centronics, Ethernet (optional)

■► The 64-0x Basic may *not* be used with peripheral devices!

64-0x Peripheral

- Basic equipment as 64-0x Basic
- The 64-0x Peripheral is additionally equipped with a motor driver and a connector for peripheral devices. Thus it offers the possibility of driving a cutter or a rewinder.

64-0x Dispenser M

- Basic equipment as 64-0x Peripheral
- Additional features: Dispensing edge and internal backing paper rewinder
- Dispensing of self-adhesive labels after printing; the backing paper is wound up inside of the printer.
- „M“ stands for manual application of the labels, what means that the label is taken off the dispensing edge and is applied to the product by hand. For this reason, the dispensing edge provides a light barrier which triggers the dispensing of the next label, if the current one is taken off.
 - ▣▣▣▣► Alternatively, the dispensing can be triggered by a foot switch. The switch must be connected to the *optional* single-start connector.

64-0x Dispenser A

- Basic equipment as 64-0x Peripheral
- Additional features: Dispensing edge and internal backing paper rewinder
- Dispensing of self-adhesive labels after printing; the backing paper is wound up inside of the printer.
- “A” stands for automatic label application, what means, that the label is applied by an applicator. The dispensing edge is longer than the type “M” edge and has no light barrier.

Options 64-0x Gen. 2

Internal Options

...should be factory-fitted or installed by a service engineer:

- *Reflex sensor*: Light barrier fork that apart from the transmission sensor, also contains a reflex sensor.
- *Fullsize sensor*: Punch sensor which can be shifted across the full material width.
 - ▣▣▣▣► The fullsize sensor can not be used under one of the following conditions:
 - The printer is a 64-0x Dispenser (type A or M).
 - The printer is operated with the online verifier (see below) option.
- *USI* (Universal Signal Interface): can e.g. be used to control an applicator or a scanner.
- *Options board* with an additional serial interface (COM 2) and a PS/2 keyboard connector.
- *Antistatic kit*: reduces electrostatic charge, which can especially arise of the processing of plastic labels. Electrostatic discharge can damage or destroy electronic circuits of the printer.
- *Realtime clock*
- *Single-Start option*: Connector for a foot switch or another external signal, which is supposed to start or stop the printer.

External Options

...do not require any special alterations to the printer, however, the printer must be prepared for the use of peripheral devices:

- *Cutter*: Optional high-performance, low-noise cutter with double-cut function from 1 to 5 mm
- *Rewinder*: is mounted to the printer and rewinds the printed label materials with the printed side facing inwards or outwards
- *Online Verifier*: The online verifier (OLV) checks printed bar code immediately after printing it. If the bar code has not been printed or has not been printed in a readable way, the OLV stops the printer.
- *Keyboard* for standalone operation
- *Foot switch* for triggering the label dispenser (printer must be equipped with single-start option)

Options 64-0x Gen. 3**Internal Options**

...should be factory-fitted or installed by a service engineer:


- *Reflex sensor*: Light barrier fork that apart from the transmission sensor, also contains a reflex sensor.
- *Fullsize sensor*: Punch sensor which can be shifted across the full material width.
 - ▣► The fullsize sensor can not be used under one of the following conditions:
 - The printer is a 64-0x Dispenser (type A or M).
 - The printer is operated with the online verifier (see below) option.
- *USI* (Universal Signal Interface): can e.g. be used to control an applicator or a scanner.
- 2nd *CompactFlash slot* on a daughter board
- *Antistatic kit*: reduces electrostatic charge, which can especially arise of the processing of plastic labels. Electrostatic discharge can damage or destroy electronic circuits of the printer.
- *Single-Start option*: Connector for a foot switch or another external signal, which is supposed to start or stop the printer.

- *External control panel*



[1] Right: External control panel.

An external control panel [1] can be connected in addition to the integrated control panel. An external control panel is useful if the standard control panel is difficult to access due to the position in which the unit is installed (min. firmware: 5.31).

[Optional boards](#) : Service manual, topic section „Electronic Gen. 3“.

External Options

...do not require any special alterations to the printer, however, the printer must be prepared for the use of peripheral devices:

- *Cutter*: Optional high-performance, low-noise cutter with double-cut function from 1 to 5 mm


[Manual „Cutter 2000“](#)  on the Documentation-CD

- *Rewinder*: is mounted to the printer and rewinds the printed label materials with the printed side facing inwards or outwards

[Manual „Rewinder 2000“](#)  on the Documentation-CD

- *Online Verifier*: The online verifier (OLV) checks printed bar code immediately after printing it. If the bar code has not been printed or has not been printed in a readable way, the OLV stops the printer.

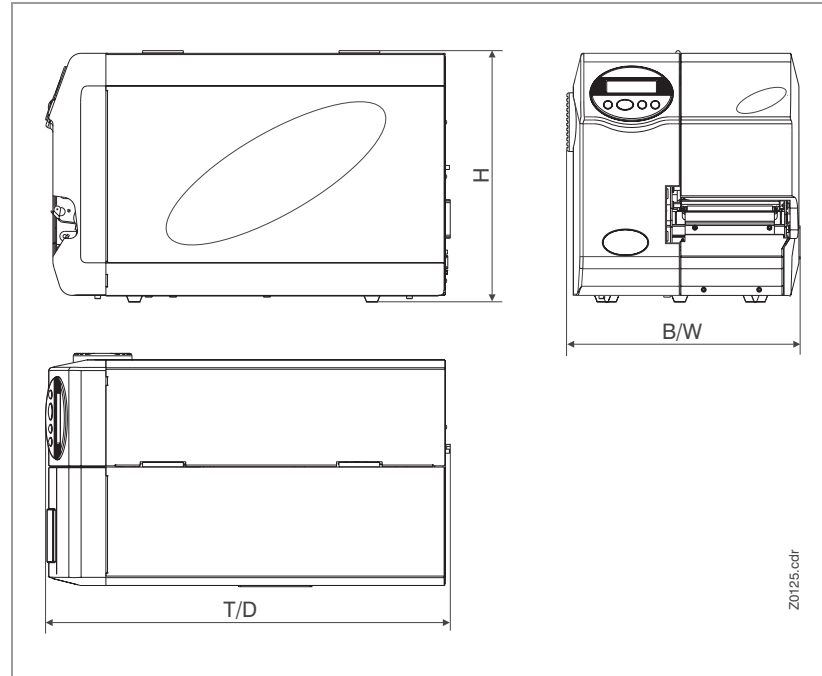
- *Keyboard* for standalone operation

Standalone operation: User manual, topic section [Advanced Applications](#) , paragraph „Standalone Operation“

- *Foot switch* for triggering the label dispenser (printer must be equipped with single-start option)
- *USB-Stick*: All types of USB mass storage class devices connected to the USB host port are supported. Those are e. g. USB sticks (min. firmware: 5.31).
- *USB-Scanner*: USB scanner can be operated at one of the USB host ports. Scanned data is interpreted as keyboard input (min. firmware: 5.31).

Technical Specifications

Dimensions



[2] Dimensions of the 64-xx series standard printers. Refer to the following table for the values.

Printer	W(idth) / mm	H(eight) / mm	D(epth) / mm	Weight in kg
64-04/05	320	305	490	20.0
64-04/05 with cutter	320	305	540	21.5
64-04/05 Dispenser	320	305	490	23.5
64-06	350	305	490	21.5
64-06 with cutter	350	305	540	23.0
64-06 Dispenser	350	305	490	25.0
64-08	450	305	490	26.0
64-08 with cutter	450	305	540	27.5
64-08 Dispenser	450	305	490	29.5

[Tab. 1] Dimensions and weights of the 64-xx series printers. All width measures refer to the housing without the approx. 5 mm wide motor cover.

- The dispenser versions of the printers have equal dimensions as the standard types, respectively.
- Dimensioned drawings of the 64-xx with and without dispenser, cutter or rewinder are contained in DXF format (Autocad) on the Documentation-CD in folder *Dimensional Drawings*.

64-xx Gen. 2/3

Performance data

Print technology	Thermal direct printing, thermal transfer printing
Printhead	"Corner Edge Type" print head, high-definition, fast, with integrated temperature control
Resolution	12 dots/mm (300 dpi)

Print speed

Printer	Print speed in mm/s	Print speed in inch/s
64-04/05	50 to 406	2 to 16
64-06	50 to 359	2 to 14
64-08	50 to 229	2 to 9

[Tab. 2] Print speeds of the 64-xx printers
(Unit interval 25,4 mm/s (1 "/s), respectively)

Print speed 64-0x Dispenser

Printer	Ribbon auto-econ.	Setting of parameter „Transport mode“		
		„Dispenser motor“	„Dual motors“	„Printer motor“
64-04/05 Dispenser	Off	12 "/s	12 "/s	16 "/s
	On	8 "/s	12 "/s	16 "/s
64-06 Dispenser	Off	12 "/s	12 "/s	14 "/s
	On	8 "/s	12 "/s	14 "/s
64-08 Dispenser	Off	10 "/s	10 "/s	9 "/s
	On	8 "/s	10 "/s	9 "/s

[Tab. 3] The maximum print speed of the dispenser printers depends on the setting of the parameter SYSTEM PARAMETERS > Transport mode. The values are recommendations, up to which proper functioning of the printer is guaranteed.

Print width (actual)	<ul style="list-style-type: none"> • 64-04:106.6 mm • 64-05:127.9 mm • 64-06:159.9 mm • 64-08:213.2 mm
----------------------	--

Output mode 1:1 and 100 % printable, either with or without cut.

▣▶ Non-printable area:

- 1 mm from the front label edge (1st edge in feed direction) and
- 1 mm from the left band border (right border in feed direction).

- Gap detection
- Self-initialising light transmission sensor, optional reflex sensor (at the bottom side of the material).
 - Correction of gap displacement in feed direction is possible by modifying the gap offset (parameter `PRINT PARAMETERS > Punch offset`),
 - ▮ The trigger point of the reflex mark (that is the actual label beginning) is at the dark-to-bright change of the reflex mark.

	Light transmission sensor	Reflex sensor
Setting range	2-17 mm	13-26 mm
Punch length (in feed direction)	0.8-14 mm	4 mm (recommended)
Punch width (across the web)	min. 4 mm	12 mm (recommended)

[Tab. 4] Punch dimensions and setting ranges.

Interpreter Easy Plug, Line Printer, Hex Dump

- Character sets
- 17 fonts including OCR-A and OCR-B,
 - 3 scalable fonts,
 - Truetype fonts supported

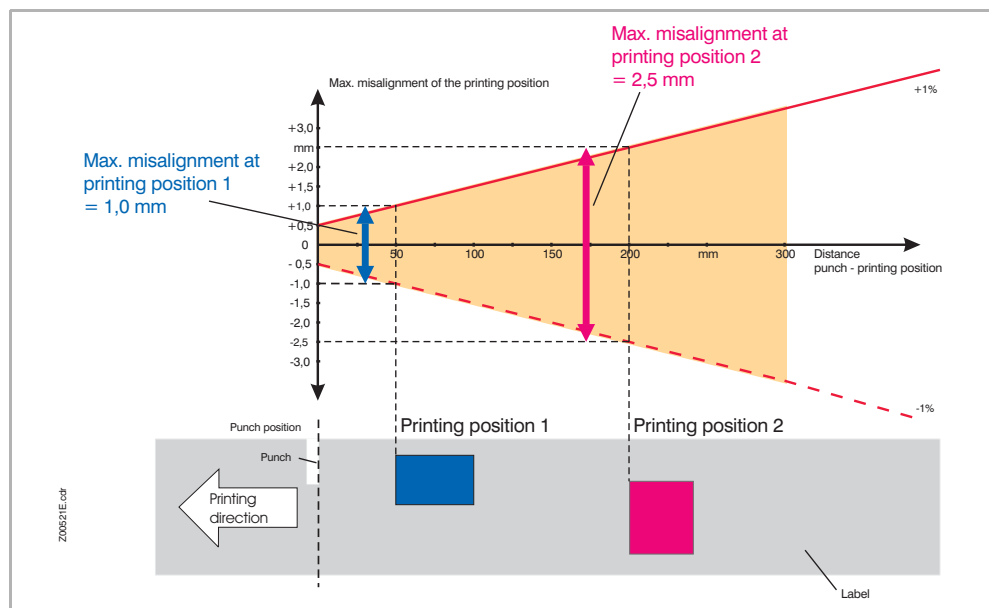
- Character modification
- Scaling in X/Y direction up to factor 16,
 - Rotation 0, 90, 180, 270 degrees

Impression accuracy

- In printing (y-) direction:

The impression accuracy depends on the print position. With the printout starting directly at the punch position, the accuracy is ± 0.5 mm. A distance between punch (that is label start) and print position will add $\pm 1\%$ of this distance to the accuracy fault (see fig. [3]).

- X-direction: ± 0.5 mm.



[3] Impression accuracy in printing direction, depending on the printing position.

Bar codes	Codabar	Code 128 A, B, C
	Code 128	Code 128 UPS
	Code 128 pharmacy	ITF
	Code 2/5 matrix	MSI
	Code 2/5 interleaved	EAN 13 add-on 2
	Code 2/5 5-line	EAN 13 add-on 5
	Code 2/5 interleaved ratio 1:3	EAN 128
	Code 2/5 matrix ratio 1:2,5	Postcode (guide and identity code)
	Code 2/5 matrix ratio 1:3	UPC A
	Code 39	UPC E
	Code 39 extended	Code 93
	Code 39 ratio 2,5:1	
	Code 39 ratio 3:1	

All bar codes scalable in 30 different width and in the height.

2-dimensional bar codes	Data Matrix Code (code according to ECC200)
	Maxi Code
	PDF 417
	Codablock F
	Code 49
	QR Matrix Code

GS1 Databar & CC bar codes Reduced Space Symbology (GS1 Databar) und Composite Component (CC) bar codes:

GS1 Databar-14	UPC-A + CC-A/CC-B
GS1 Databar-14 truncated	UPC-E + CC-A/CC-B
GS1 Databar-14 stacked	EAN 13 + CC-A/CC-B
GS1 Databar-14 stacked omnidirectional	EAN 8 + CC-A/CC-B
GS1 Databar limited	UCC/EAN 128 + CC-A/CC-B
GS1 Databar expanded	UCC/EAN 128 + CC-C

Label material

Material type Self-adhesive, card and synthetic materials, suitable for printing in thermal direct process and thermal transfer process. Use of roll material or leporello possible.

Material weight

- 64-04/05/06: max. 240 g/m²
- 64-08: max. 160 g/m²

Material width	Printer	Material width (mm)
	64-04/05	25.4 – 154
	64-04/05 Dispenser	25.4 – 140
	64-06	30.2 – 185
	64-06 Dispenser	30.2 – 172
	64-08	100 – 254
	64-08 Dispenser	100 – 241

[Tab. 5] Max. processable material widths.

- Label length**
- 64-0x: 5 to “max. print length”
 - 64-0x Dispenser: 10 to “max. print length”
- ▣▣▣▣▶ The max. print length depends on the memory availability of the printer.
- Label roll**
- Max. outer-Ø: 210 mm
 - Inner-Ø: 38/76/102 mm (1,5/3/4”)

Roll weight

Printer	Roll weight
64-04/05	4250 g
64-06	7200 g
64-08	5000 g

[Tab. 6] Max. admissible material roll weights.

Ribbon**Ribbon roll**

- Max. outer-Ø :90 mm
- Inner core-Ø :25.4 mm (1")
- Winding direction:
 - 64-xx: ink inside or outside
 - 64-xx Dispenser: ink inside
- Roll width

Printer	Ribbon width ^{a)}
64-04/05	30 -132 mm
64-06	30 -164 mm
64-08	40 -217 mm

[Tab. 7]Admissible ribbon width of the different printer types.

a) Counts also for 64-xx dispenser.

Connections, device data

Printer	Mains voltage	Mains frequency	Power consumption	Max. input current
64-04/05/06	115-240 V	50-60 Hz	250 W	3.2 A
64-08	100-240 V	50-60 Hz	450 W	3.2 A

[Tab. 8] Connection data for 64-xx printers.

Protection class


I

Ambient conditions

- Operating temp.** +5 to +35 °C
- Storage temp.** -20 to +70 °C
- Humidity** 45 to 75 %, non-condensing
- Noise** 70 dB(A)
- Protection category** IP 21


Interfaces 64-0x Gen. 2

- Serial Interface (Com1)
 - RS 232 or RS 422/485; selection via parameter menu
 - Max. baud rate 115200
- Parallel Interface
 - Centronics
 - Bidirectional mode (nibble mode); conforms with IEEE 1284 B
- *Optional*: Ethernet interface 10/100 Base T with TCP/IP, LPD, RawIP printing, DHCP, HTTPD, FTPD, SNMP
- *Optional*: Universal Signal Interface (USI)
- *Optional*: Second serial interface (Com2)
 - RS 232
 - Max. baud rate 115200
- *Optional*: PS/2 keyboard connector for use in standalone mode and for putting in variable print data.

[Pin assignment](#) : read service manual, topic section „Electronics Gen. 2“

Interfaces 64-0x Gen. 3

- Serial Interface (Com1)
 - RS 232
 - Max. baud rate 115200
- *Optional*: Second serial interface (Com2)
 - RS 232 or RS 422/485
 - Selection via parameter menu
 - Max. baud rate 115200
- USB ports
 - USB 1.1
 - 2 USB-A host ports
 - 1 USB-B device port (full speed)
- Parallel Interface
 - Centronics
 - Bidirectional mode (nibble mode); conforms with IEEE 1284 B
- Ethernet interface 10/100 Base T with TCP/IP, LPD, RawIP printing, DHCP, HTTPD, FTPD, SNMP
- *Optional*: Universal Signal Interface (USI)

[Pin assignment](#) : read service manual, topic section „Electronics Gen. 3“

64-xx Gen. 2/3

Electronics 64-0x Gen. 2

Processor	64 Bit IDT MIPS
RAM	16 MB (extendable to max. 80 MB)
ROM	2 MB
Plugin cards	1 slot for CompactFlash T1 up to max. 128 MB
Realtime clock	optional
Signal interface	(USI board) optional

Electronics 64-0x Gen. 3

Processor	32 Bit AMD MIPS
RAM	64 MB
ROM	4 MB
Plugin cards	<ul style="list-style-type: none"> • 1 slot for CompactFlash T1 (standard) • 1 slot for CompactFlash T1 (optional) • 1 slot for SD/MMC (standard, not yet supported)
Realtime clock	Standard
Signal interface	Optional: USI board or I/O board

Operation features

Operation panel	<ul style="list-style-type: none"> • (64-0x Gen. 2) <ul style="list-style-type: none"> – 4-key control panel – 32-figure illuminated LCD display • (64-0x Gen. 3) <ul style="list-style-type: none"> – 4-key control panel – graphical, 128 x 32 Dot LCD display, illuminated
Settings	Definition of parameters using menu or Easy Plug commands

Status messages / Test functions

Test printouts	Printouts for parameter settings, adding logo and font, line and bar code library
Test functions	Print tests with cut, test routines for memory and sensors, interface test
Error reports	Display of error reports on the display, continuation of print jobs without label loss
Warnings	Ribbon low
Dot check	Checks the printhead on defective dots – automatically or manually

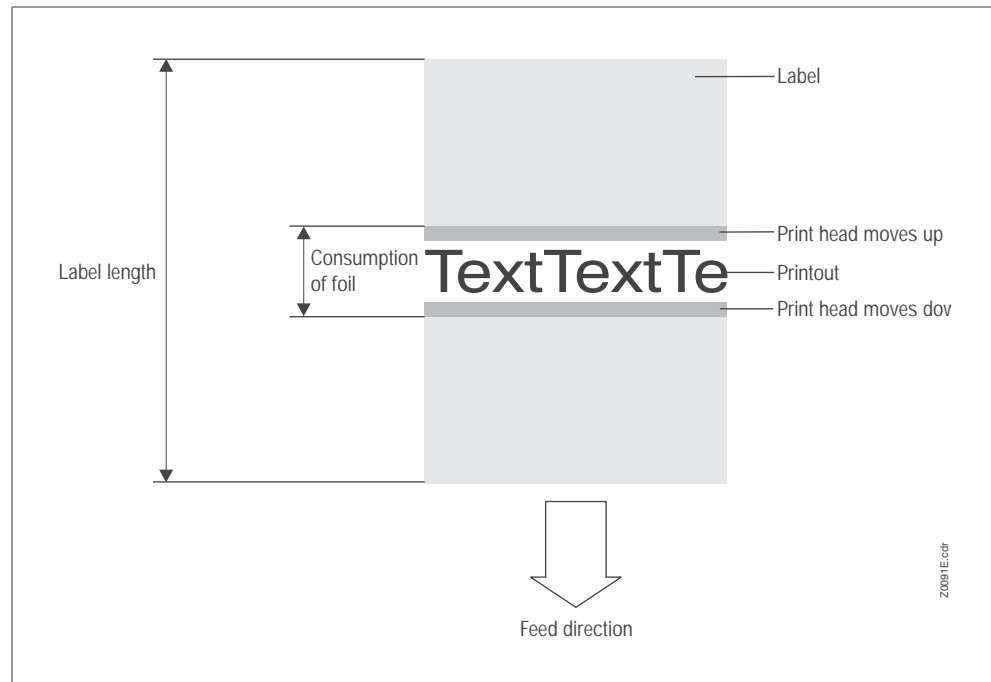
Test certificates

TÜV GS	TÜV GS test certificate: Tested safety (according to EN 60950)
CE	The devices conform to CE-requirements and are marked with the CE label. The manufacturer declares that the device conforms with the relevant European guidelines.
EMC	<p>The EMC test was made according to the following norms:</p> <ul style="list-style-type: none"> • EN 55022 • EN 55024 • EN 61000-3-2 • EN 61000-3-3 • EN 61000-6-2 <p>▣▣▣▣ The norm EN 55022 prescribes the following warning note to be included in the operation manual for devices of class A:</p> <p>„Warning! This is class A equipment. This equipment may cause radio disturbances if it is used in a living area; in those cases can be demanded of the manufacturer to carry out appropriate measures.“</p>
FCC	<p>▣▣▣▣ FCC Regulations require the following wording for Class A devices:</p> <p>„WARNING</p> <p>This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to local radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.“</p>
IC	<p>▣▣▣▣ IC (Industry Canada) requires the following wording for Class A devices:</p> <p>„CANADIAN D.O.C. WARNING</p> <p>This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.</p> <p>Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.“</p>

Appendix

Automatic ribbon economy

In regular print mode, ribbon is fed simultaneously with the label material. The automatic ribbon economy (= „ribbon saving“) stops the feeding of the ribbon if there are label areas of a certain size without imprinting. As a result, ribbon is saved [4].



[4] Ribbon (Foil) consumption when printing labels with a small imprinting area and activated automatic ribbon economy. Ribbon consumption is slightly higher than the length of the imprinted area.

The effect of ribbon saving depends on the print speed. The reason for this is the up and down movement of the printhead as well as the acceleration and slowing-down of the ribbon. Generally said: With a high print speed, less ribbon is saved as with a low print speed (Tab. 9).

Cutting or dispensing applications can additionally deteriorate the effect of ribbon saving.

Activating ribbon saving


Activate the automatic ribbon economy by selecting parameter `SYSTEM PARAMETERS > Ribbon autoecon..`

Set the minimum distance between two print areas from which on ribbon saving should be activated with parameter `SYSTEM PARAMETERS > Ribbon eco. limit.`

[Setting parameters](#) : see topic section „Info-printouts and Parameters“.

Only „Real 1:1“

The ribbon saving can only applied in Real 1:1 mode. All printjobs must therefore be defined using the `#IMR Easy Plug` command.

Easy-Plug commands : Easy Plug Manual, topic section „Description of Commands“.

Print speed		Minimum length of un-printed area in mm	Consumed ribbon per saving action in mm
mm/s	inch/s		
51	2	3.7	1.2
76	3	4.6	1.9
102	4	5.9	3.1
127	5	7.4	4.4
152	6	8.9	5.9
178	7	11.1	7.6
203	8	14.1	9.5
229	9	17.6	11.3
254	10	21.3	13.6
279)	11	25.3	15.9
205	12	30.0	18.5
330	13	34.5	21.2
356	14	39.9	24.2
381	15	45.6	27.3
406	16	51.3	30.5

[Tab. 9] The amount (length) of consumed ribbon per saving action (lifting and lowering of the printhead) increases with the print speed.

Important distances to the print line

Distance print line to	mm
Punch sensor (light transmission)	16.0
Punch sensor (reflex)	16.0
Punch sensor (Full-Size)	67.8
Dispensing edge (long)	39.8
Dispensing edge (short)	24.2

[Tab. 10] Important measures regarding the print line.

Zubehör

Fußschalter, Tastatur
Netzkabel
Datenkabel
USI-Testbox
Druckkopf-Reinigungswalze (AP 7.t)

Accessories

Foot switch, Keyboard	2
Power Cables	3
Data Cables	4
USI Testbox	5
Printhead cleaning roller (AP 7.t)	6

Fußschalter, Tastatur / Foot switch, Keyboard



1



2



3

ID	Bezeichnung	Designation	Teilenummer / Part Number
1	Fußschalter	Foot switch	A4053 ¹ (AP4.4/5.4) 97685 ² (64-xx)
2	Tastatur	Keyboard	A8407 ³ (German layout) A8406 ⁴ (US layout)
3	Nummernblock (<i>Deutsches Layout</i>)	Number key block (<i>German layout</i>)	A4219 ⁵

1) Stecker wie abgebildet.
Plug as illustrated.

2) Stecker entspricht nicht der Abbildung.
Another plug as illustrated.

3) Adapter USB-zu-PS/2 wird mitgeliefert.

4) USB-to-PS/2 adapter is included.

5) Mit PS/2-Stecker - kann nur für AP 5.4 rot und 64-xx Gen. 2 verwendet werden.
With PS/2 connector - can only applied to AP 5.4 red and 64-xx Gen. 2.

Netzkabel / Power Cables



1



2



3



4



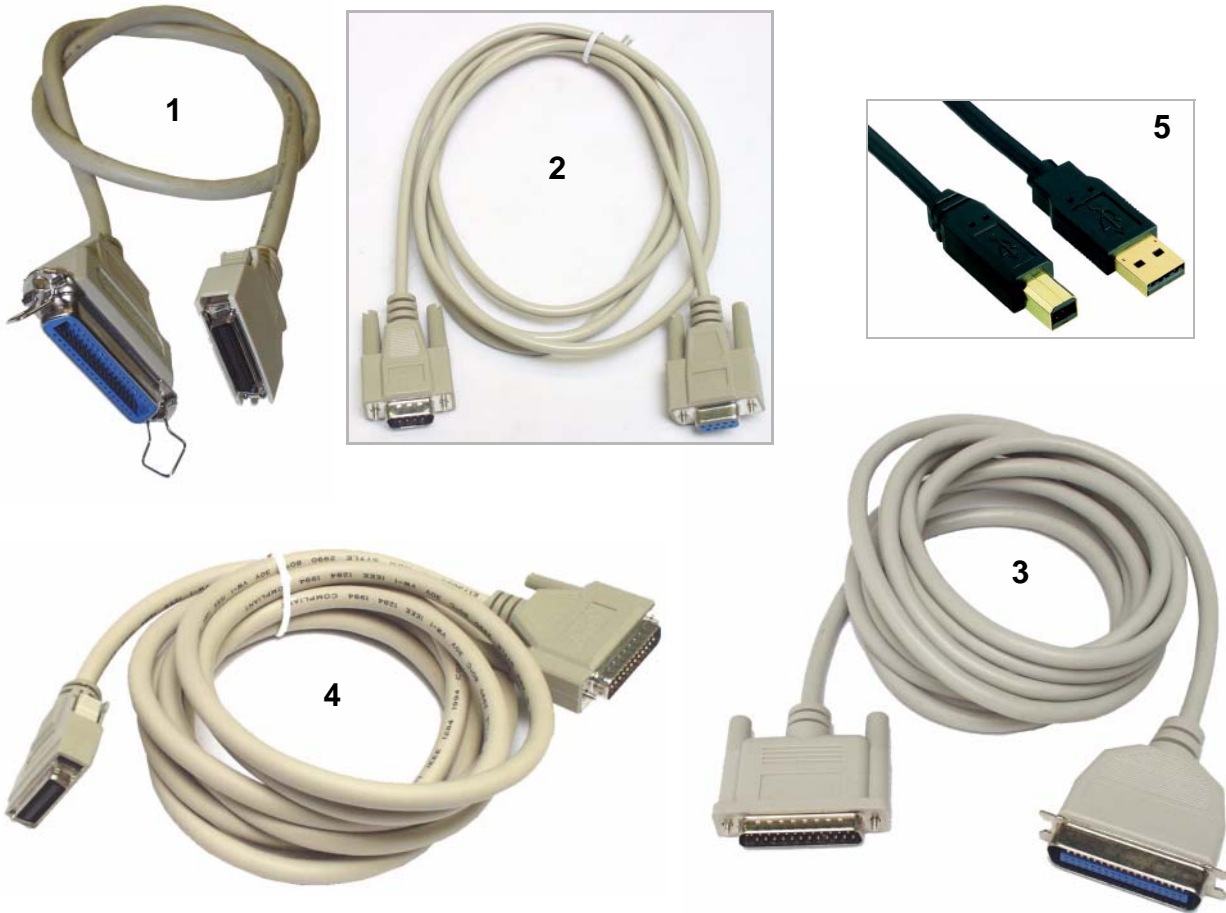
5



6

ID	Bezeichnung	Designation	Teilenummer / Part Number
1	Netzkabel UK	Power cable UK	A0635
2	Netzkabel EU	Power cable EU	A4254
3	Netzkabel USA	Power cable USA	A4255
4	Netzkabel China	Power cable China	A5451
5	Netzkabel DK	Power cable Denmark	A3598
6	Netzkabel Schweiz	Power cable Swiss	A0842

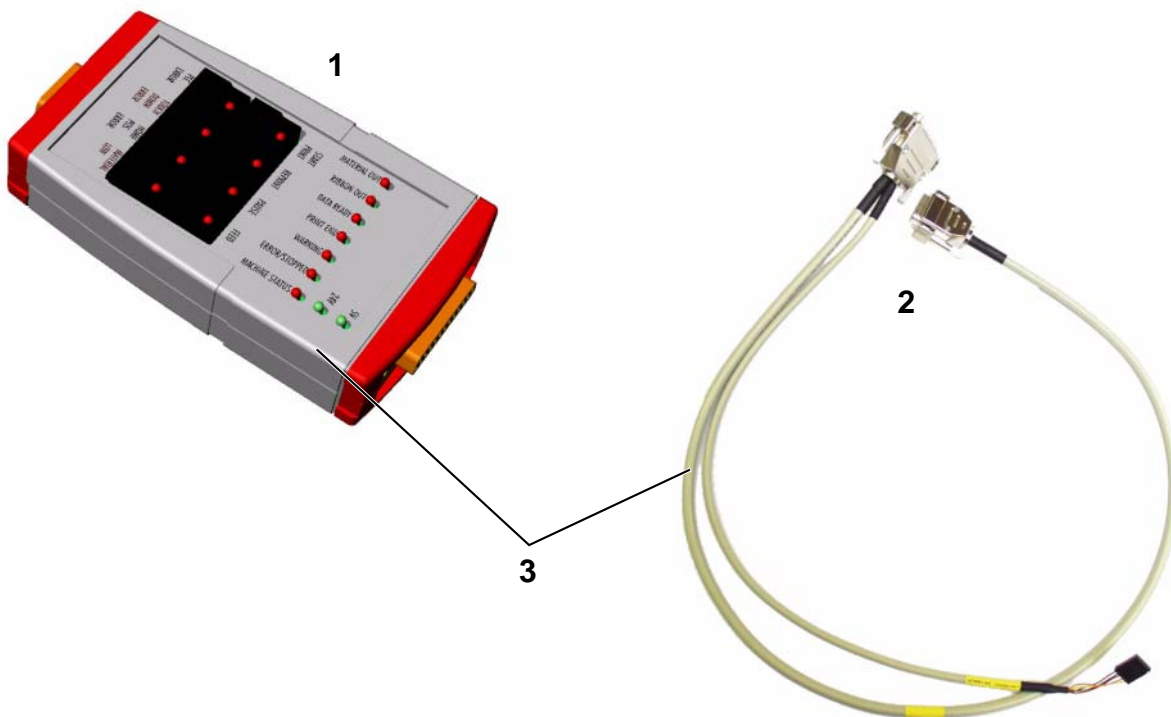
Datenkabel / Data Cables



1

ID	Bezeichnung	Designation	Teilenummer / Part Number
1	Adapterkabel Centronics - Mini Centronics	Adapter cable Centronics - Mini Centronics	A5469 (AP 4.4/5.4/7.t)
2	RS 232-Kabel	RS 232 cable	A1207
3	Centronics-Kabel (3m lang, bidirektional)	Centronics cable (length: 3m, bidirectional)	A2480 (64-xx)
4	Centronics-Kabel (IEEE 1284 CA)	Centronics cable (IEEE 1284 CA)	A4253 (AP 4.4/5.4/7.t)
5	USB-Kabel 2.0 A zu B	USB cable 2.0 A to B	126738

USI-Testbox / USI Testbox



ID	Bezeichnung	Designation	Teilenummer / Part Number
1	USI-Testbox	USI test box	A2739
2	Anschlußkabel für Testbox	Connection cable test box	A2842
3	USI-Testbox + Rundkabel	USI test box + connection cable	A2843

Druckkopf-Reinigungswalze (AP 7.t) / Printhead cleaning roller (AP 7.t)



ID	Bezeichnung	Designation	Teilenummer / Part Number
1	Druckkopf-Reiniger	Printhead cleaner	A6781
2	Druckkopf-Reinigungswalze ZSB	Printhead cleaning roller assy.	A6780
3	Druckkopf-Reinigungssatz	Printhead cleaning set	A7010